memory to hold HyperCard or a growing number of databases.

That "outraged" Frank Spina, a Havertown, Pa., computer consultant, who complained, "The Finder and System are frozen on the 512KE with HyperCard and MultiFinder."

But Robert Breinholt, president of Ad Lab in Salt Lake City, Utah, said: "I think HyperCard is very intriguing. If it enables you to use a PC as you think ... it will be terrific."

Meanwhile, Jean-Louis Gasse, Apple's poet, essayist and vice president of research and development, delivering a speech on the state of the personal computer said, "Computers ought to replicate thought, not force us to think in a literalistic fashion. We think by imprecise associations."

Apple CEO John Sculley kicked off the show by coining a phrase: "interpersonal computing," Apple's version of connectivity, not only to Macs, but to IBM PCs and compatibles. This is, after all, the year Apple opened

It may appear that IBM and Apple are on the same journey," Sculley said. "They've introduced graphics and a pointing device. On the one hand, that makes it easier for the two environments to coexist. I predict, by the end of the century, IBM will connect OS/2 to everything they make. Our statement of direction (Multitasking and HyperCard) is shipping in September. You can use it in 1987."

Other people, less concerned with the future of technology, typically were shopping for good software bargains or cruising the show to hawk a product. At least 100 new products were announced.

Attendance was expected to set a new show record, said Mike Hallal, vice president of Mitch Hall Associates in Boston, the show management company. Last year, 18,700 people were present at Mac Expo in Boston.

Traffic jams and a lack of parking greeted attendees. Despite the logistics, Hallal said he expects next August's Boston expo will be held again at the Bayside Exposition Center. ■

STACKWARE

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Jon Shirley, chief operating officer of Microsoft, said, "We don't view HyperCard as a development environment for software companies, but for end users."

At the Mac Expo in Boston last week, nine HyperCard-seeded developers demonstrated the results of their efforts under Apple's sponsorship, and several more stackware products were shown at other booths on the show floor.

The nine Apple-hosted demonstrations — from Activision, David Sanders Consulting, Harvard University, Intelligent Choice, Optical Data, Point Foundation, Tom Peters Group, Voyager and Worldview — presented products in various stages of development, from "early investigation" to "almost shipping."

Several of the stacks were adaptations of successful projects first done in more traditional print media. Tom Peters Group, for example, demonstrated corporate training tools based on founder Peter's book "In Search of Excellence." The program, Creating Value for the Customer, uses HyperCard to integrate text, slides and video for training sales people.

Point Foundation, the publisher of the well-known "Whole Earth Catalog," also had an partial adaptation of its printed material.

The stackware product claimed closest to release is the Time Table of Science and Innovation, from Xiphias of Marina Del Rey, Calif., which will be ready to ship in one week, according to Peter Black, president of Xiphias.

An interactive compendium of the key events in the history of science and human innovation, Time Table incorporates text, sound and graphics. The information is interlinked via key word and hypertext techniques.

Another stackware product said nearly ready is Business Class from Activision of Mountain View, Calif. The product turns the Mac into a desktop travel planning tool, supplying thousands of travel facts about countries around the world — currency exchange rates, transportation schedules, climate data and more. A second Activision stackware product for time and information management, called Focal Point, is expected to ship in October.

Also very close to shipping is the stackware version of the control program for the PhoneNet StarController from Farallon Computing, said Reese Jones, president of the network products firm. The stackware version will provide a more interactive and easier means to manage and configure the Farallon network.

Control of outside systems also is the goal of Optical Data's stackware product. The $39.95 multi-media database controls videodisc players to make accessible thousands of frames and hundreds of motion clips in biology, earth science and physical science.

The first HyperCard hardware accessory also made its debut. HyperDialer, an automatic telephone dialing device from Data Desk International connects HyperCard phone lists with a telephone through the audio port of any Mac. It costs $29.95.

For HyperCard's adherents, though, these early products are just a foretaste of what is on the way. "HyperCard will spawn a whole different industry more concerned with editorial judgement than with bits and bytes," says Xiphias's Peter Black. "It's a vessel for information, a conduit. ■

and sit at my Mac and I can build an application and I don't have to be a programmer."

"HyperCard is an exciting product. It will be interesting to see how easy it will be to write interfaces to other software with HyperCard," said Tom Evslin, president of the Montpelier, Vt.-based Solutions Inc.

"I could see us putting our documentation in HyperCard," Evslin said. "Our products are generally so small in size that we could fit a HyperCard stack on a disk with them."

Farallon President Reese Jones was enthusiastic about HyperCard, but he said he also believed limitations of HyperCard might prevent developers from attempting to market commercial stacks. "All your source code is visible to anyone who wants it. Anybody who wishes to keep it proprietary is not going to use HyperCard. It will discourage innovation."

Another developer, who asked not to be

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the painting and drawing tools incorporated in the program or import clip art.

Twenty four images can be displayed at once and one document can include up to 512 pieces of artwork. The user can color and animate artwork from black and white programs.

Silicon Beach Software introduced Super 3D, a $295 3-D graphics editing package that offers wireframe and surface modeling. Super 3D Enhanced, at $495, designed to render solids faster, needs a 68881 coprocessor and 2-Mbytes of RAM when using color. The program provides four light sources for solid shading and imports files from other 3-D applications.

Visual Information of Pasadena, Calif., demonstrated its Design Dimensions software,

SuperMac's 24-bit color video card for the Mac II displays 1

MARC ALCAREZ